

JUSTIFICATION FOR OTHER THAN FULL AND OPEN COMPETITION OVER \$150,000

1. This document is a justification for other than full and open competition prepared by the NASA, John F. Kennedy Space Center (KSC).
2. The nature and/or description of the action being approved:

It provides the rationale for contracting by other than full and open competition for the acquisition of two (2) broadband dielectric spectrometry systems to meet Department of Defense (DOD) requirements for purposes involving national security. The DOD has contracted with NASA KSC to perform this procurement due to our unique expertise in broadband dielectric spectroscopy. These skills will be used to specify, obtain, and operate the equipment for the DOD to develop a reference library of materials important to national security.

3. Description of the supplies or services required (including the estimated value):

NASA, Kennedy Space Center, will negotiate with Novocontrol America, Inc. for two (2) turnkey broadband dielectric spectrometer systems and associated accessories. The total estimated cost of this effort is [REDACTED] and the estimated period of performance or lead-time for delivery is 240 days. NASA KSC will derive benefit from the use of this equipment when not being used for DOD purposes. The Novocontrol system provides enhanced capabilities over existing KSC equipment used for capacitance based sensor development by improving both the bandwidth and the fidelity of dielectric measurements. As part of this work, additional KSC personnel will be trained in operating the equipment and in broadband dielectric spectroscopy techniques, further enhancing KSC's capabilities and skill mix.

4. Statutory authority permitting other than full and open competition:

Pursuant to FAR 13.106-1(b) and 13.106-3(b)(3)(i), the acquisition of the Novocontrol Concept 80 Turnkey Broadband Dielectric Spectrometer and associated accessories are determined to be available from only one source.

5. A demonstration that the proposed contractor's unique qualifications or the nature of the acquisition requires use of the authority cited:

This equipment is being purchased for the DOD to obtain reference grade spectral measurements on energetic materials of interest for defense purposes. The Novocontrol Concept 80 is the only known turnkey system capable of making reference measurements on these materials over a frequency range from 3 μ Hz to 3 GHz and over a temperature range from -160 °C to 400° C with +/-0.01 °C stability. The materials are highly insulative and require a high phase accuracy of 0.002° and a high $\tan(\delta)$ accuracy of 3×10^{-5} in order to measure the material permittivity properties to within 1% accuracy. A turnkey commercial off the shelf system with these specifications is required to meet

the DOD timeline. Novocontrol America, Inc. is the only vendor capable of providing a system with these capabilities and specifications.

6. Description of the efforts made to ensure that offers are solicited from as many potential sources as practicable:

A notice for intent to sole source shall be posted to Federal Business Opportunities (FBO) and the NASA Acquisition Internet Service (NAIS) to verify if the possibility for another source may be available prior to award.

7. Determination by the Contracting Officer that the anticipated cost to the Government will be fair and reasonable:

Certified cost and pricing data will not be required. Prices will be determined reasonable based on comparison with published catalog pricing will be utilized. A determination of price reasonableness is anticipated based on published catalog pricing and confirmation of Novocontrol's other contract prices for items of a similar nature.

8. Description of the market research conducted (Part 10) and the results, or a statement of the reasons a market research was not conducted:

Dr. Mark Nurge spent over a year doing dielectric spectrometry research over a limited frequency band. During that time, he had to read numerous peer reviewed journal publications in the field and authored his own article. There are four instruments he found cited for doing this type of work. Additionally, he spent many hours conducting market research via the internet and reading equipment specifications. Wayne Kerr electronics and Agilent make LCR meters, but they are only capable of a limited frequency range and are not well suited to measuring conductivity on highly insulative materials. Solartron makes a system for these types of measurements and also sells a cryostat for temperature control. However, they don't meet the accuracy requirements and operate over a smaller bandwidth than the Novocontrol system. While Agilent makes an RF analyzer that covers a portion of the frequency band, Novocontrol is the only company that has integrated the equipment into a system with a high performance low frequency analyzer and a temperature control system.

9. Other facts supporting the use of other than full and open competition, such as:

- a) Contracting without full and open competition is permitted pursuant to 10 U.S.C. 2304 (c) (1) because the supplies required by NASA KSC KITS are available from only one responsible source and no other type of supplies or services will satisfy our requirements. There is a reasonable basis to conclude the NASA KSC KITS minimum needs can only be satisfied by the unique supplies/services available from Novocontrol.
- b) There are no other actions NASA KSC KITS can take at this time to overcome any existing barriers. Full and open competition cannot be accomplished at this time.


10. A listing of sources, if any, that expressed in writing an interest in the acquisition:

There are no other known sources which currently manufacture similar products with the same form, fit, and function.

11. A statement of the actions, if any, the Agency may take to remove or overcome any barriers to competition before any subsequent acquisition for the supplies or services required: N/A

Justification for Other than Full and Open Competition for:
Broadband Dielectric Spectrometry Systems

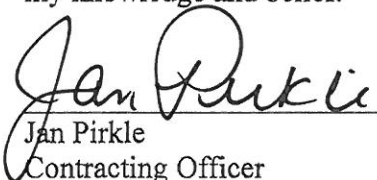
Technical Officer: I certify that the supporting data presented in this justification are accurate and complete.



Mark Nurge, Ph. D., P. E.
Applied Physics Laboratory
3/5/12
(Date)

Contracting Officer:

I certify that this justification is accurate and complete to the best of my knowledge and belief.



Jan Pirkle
Contracting Officer
3/6/12
(Date)